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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/172,577 10/13/98 HALL

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EXAMINER

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ART UNIT	PAPER NUMBER
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3682

DATE MAILED:

06/01/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/172,577

Applicant(s)

Hall et al.

Examiner

Chong H. Kim

Group Art Unit

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☒ Responsive to communication(s) filed on Feb 14, 2000

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 16, 17, 19, 20, 39, 42, 43, 46, 47, and 50-60 is/are pending in the application.
Of the above, claim(s) 54-60 is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 16, 17, 19, 20, 39, 42, 43, 46, 47, and 50-53 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claims 54-60 are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on Oct 13, 1998 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

1. The Examiner acknowledges the Applicant's Amendment filed Feb 14, 2000 and Supplemental Amendment filed Feb 25, 2000 in response to the Office action made on Nov 10, 1999; canceling of claims 18, 21-37, 38, 40, 41, 44, 45, 48, and 49.

Election/Restriction

2. Newly submitted claims 54-60 are directed to inventions that are independent or distinct from the invention originally claimed for the following reasons:

A method for controlling combustion of a combustible liquid fuel in a fuel tank as recited in claim 54, a method for controlling combustion in an electric wire raceway as recited in claim 57, and a method for controlling combustion of flour in a silo as recited in claim 60 are not drawn to the method for controlling oxidative degradation of an oleaginous liquid substance in a working machine as elected by the Applicant.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 54-60 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

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Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the working machine being a transmission box or gear box as recited in claim 39 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Objections

4. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Claims 19, 20, and 46, which depend from canceled claim 18, have been treated as depended from the broadest claim, that is claim 16.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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6. Claims 16, 17, 39, 42, 43, and 47 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claim 16 recites a limitation, "vented space in a working machine" in line 3. The space in a working machine that is vented is neither disclosed nor suggested in the specification as originally filed.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 17, 39, 43, 46, and 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites the limitation, "a combination thereof" in line 8. It is indefinite because it is unclear which combination it is referring to; the combination of the lubricant and the internal combustion engine, the combination of transmission box, a gear box, an internal combustion engine, and the lubricant, or the combination of all of the groups recited in claim 17.

Claims 46 and 47 recite the limitation, "another part of the machine" in line 4. It is indefinite because it is unclear exactly which part of the machine it is referring to.

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Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kopel, U.S. Patent 4,561,393.

Kopel shows, in Figs. 1 and 2, and discloses in column 1 lines 21-31, column 2 lines 63-65, and column 5 lines 53-56, a method for controlling oxidative degradation of an oleaginous liquid substance (oil) 124 in a generally enclosed space 140 in a working machine (internal combustion engine, see column 1 lines 11-12), which comprises providing an inert gas (nitrogen, see column 4 lines 64-65) blanket to the space 140.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. Claims 16, 17, 39, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elizabeth, U.S. Patent 3,617,580 in view of Fujiyama et al., JP Patent 02082304 A.

Elizabeth discloses, in the Abstract, a method for controlling oxidative degradation of an oleaginous liquid substance in a generally enclosed working machine, which comprises providing the working machine having a space; providing the oleaginous liquid substance; and wherein the oleaginous is oil, and the working machine is an engine having a crankcase for holding a supply of lubricant and wherein the oil is present in the crankcase as the lubricant; but fails to provide an inert gas blanket to control oxidative degradation of the oil and the working machine being a transmission box or a gear box.

Fujiyama et al. teaches, in Fig. 1 and in the Abstract and Constitution, a method for providing inert gas blanket to control oxidative degradation of oil.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the solid form of oil oxidation treatment of Elizabeth with the method of providing inert gas of Fujiyama et al. in order to provide a longer lasting system that controls oxidative degradation so that the cost of maintenance can be reduced.

As to the matter of the working machine being a transmission box or a gear box, it would have been obvious to a person of ordinary skill in the art to provide the transmission box or gear box as a working machine wherein controlling oxidative degradation of oleaginous liquid substance is desired so that the machine's life can be prolonged.

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13. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopel in view of Gast, Jr., U.S. Patent 5,649,995.

Kopel shows, as discussed above in the rejection of claims 16, a method of providing nitrogen blanket into the enclosed space to control oxidation of the engine oil, but fails to show the membrane-containing device for separating the inert gas from air.

Gast, Jr. shows, in Figs. 3 and 4, a method for providing a membrane-containing device 12 to separate nitrogen from air through membrane 54.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the membrane-containing device of Gast, Jr. to supply the inert gas of Kopel in order to provide higher purity nitrogen so that aging of a certain organic material can be controlled.

14. Claims 19, 20, 42, 43, and 51-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elizabeth in view of Fujiyama et al. as applied to claims 16 and 39 above, and further in view of Gast, Jr., U.S. Patent 5,649,995.

Elizabeth in view of Fujiyama et al. shows, as discussed above in the rejection of claims 16 and 39, a method of providing inert gas blanket into the enclosed space to control oxidation of the engine oil; and it is necessary to change the engine oil of the crankcase owing to the control of oxidative degradation of the engine oil, and the engine oil is changed only after at least twenty thousand miles of use in the crankcase of the internal combustion engine; but fails to show the membrane-containing device for separating the inert gas from air.

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Gast, Jr. shows, in Figs. 3 and 4, a method for providing a membrane-containing device 12 to separate nitrogen from air through membrane 54.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the membrane-containing device of Gast, Jr. to supply the inert gas of Elizabeth in view of Fujiyama et al. in order to provide higher purity nitrogen so that aging of a certain organic material can be better controlled.

15. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kopel in view of Gast, Jr. as applied to claim 19 above, and further in view of Tremain et al., U.S. Patent 4,594,080.

Kopel in view of Gast, Jr. shows, as discussed above in the rejection of claim 19, a method of providing nitrogen blanket into the enclosed space to control oxidation of the engine oil with the membrane-containing device for separation of nitrogen and oxygen from air, but fails to show the oxygen being delivered for consumption to a passenger cabin space.

Tremain et al. teaches, in column 1, lines 11-23, a method of providing a gas separation system which produces oxygen from ambient air and delivered to a passenger cabin space for consumption.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the inert gas delivery system of Kopel in view of Gast Jr. with the oxygen delivery system for a passenger for consumption of Tremain et al. in order to provide more oxygen to the user so that fainting or death due to the lack of oxygen can be prevented.

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16. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elizabeth in view of Fujiyama et al. and further in view of Gast, Jr. as applied to claim 42 above, and further in view of Tremain et al.

Elizabeth in view of Fujiyama et al. and further in view of Gast, Jr. shows, as discussed above in the rejection of claim 42, a method of providing nitrogen gas blanket into the enclosed space to control oxidation of the engine oil with the membrane-containing device for separation of nitrogen and oxygen from air, but fails to show the oxygen being delivered for consumption to a passenger cabin space.

Tremain et al. teaches, in column 1, lines 11-23, a method of providing a gas separation system which produces oxygen from ambient air and delivered to a passenger cabin space for consumption.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the inert gas delivery system of Elizabeth in view of Fujiyama et al. and further in view of Gast, Jr. with the oxygen delivery system for a passenger for consumption of Tremain et al. in order to provide more oxygen to the user so that fainting or death due to the lack of oxygen can be prevented.

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Response to Arguments

17. Applicant's arguments with respect to claims 16, 19, and 20 have been considered but are moot in view of the new ground(s) of rejection.

18. In response to the Applicant's argument that none of the prior art teaches or suggest the limitation of "20,000-mile" in claim 20, it is the Examiner's contention that engine oil can be changed at every 20,000 or even at every 50,000 miles if the operator of the vehicle so desires. There is no set standard that oil must be changed at every 3,000 miles as the conventional wisdom of maintenance would suggest. One of ordinary skill in the art may experience an acceptable level of engine performance even if the oil change is not performed after 20,000 miles.

Conclusion


19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (703) 305-0922.


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May 31, 2000